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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,842	09/25/2003	Michael D. Brookshire	121236.00003	9648
26707	7590	02/16/2011		
QUARLES & BRADY LLP RENAISSANCE ONE TWO NORTH CENTRAL AVENUE PHOENIX, AZ 85004-2391			EXAMINER MORGAN, EMILY M	
			ART UNIT 3677	PAPER NUMBER
			NOTIFICATION DATE 02/16/2011	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

pat-dept@quarles.com

### Office Action Summary

**Application No.**

10/671,842

**Applicant(s)**

BROOKSHIRE, MICHAEL D.

**Examiner**

EMILY MORGAN

**Art Unit**

3677

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 November 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) \_\_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 47, 49, 51-54 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 February 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-940)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

In view of the Appeal filed on 11/30/2010, PROSECUTION IS HEREBY REOPENED. A new rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

./Thomas B Will/

Supervisory Patent Examiner, Art Unit 3671

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "opposing corners

of the hexagon nested between adjacent facets” of claims 13, 23 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Examiner contends that the hexagons are shown in elected figure 5, but the “nested” arrangement is only described in figure 9, which is not elected.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Election/Restrictions***

Claims 13-16, 18-19, 21, 23-25, 27-28, 40-46 and 48 are directed to an invention that is independent or distinct from the invention originally claimed for the following

reasons: applicant originally elected the hexagonal arrangement shown in figure 5, but has not disclosed the "nested" claimed using these shapes. Applicant originally elected figures 2-5 on 7/29/2005. The nested arrangement is only disclosed in [0034], which is defined as "disposed between two preceding facets" (line 13 of page 15) that creates "a spiraling effect as indicated by arrows 106" (line 20-23, page 15). Applicant has only disclosed this effect shown in figure 9, which has not been elected.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 13-16, 18-19, 21, 23-25, 27-28, 40-46 and 48 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 53 recites the limitation "first set of facets" or "second set of facets" in claim 51. There is insufficient antecedent basis for this limitation in the claim. Examiner will assume that applicant intended to depend claim 53 from claim 52.

#### ***Claim Rejections - 35 USC § 102***

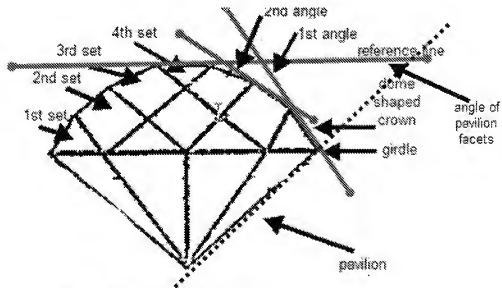
The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 47 and 51 are rejected under 35 U.S.C. 102(b) as being anticipated by 949657 to Murrin.

Regarding claim 47, Murrin discloses a diamond (line 56), comprising: a pavilion having a plurality of facets disposed from a girdle to a culet; and a dome-shaped crown disposed above the girdle, wherein the girdle extends no further than a widest circumference of the dome-shaped crown and the pavilion extends no further than a widest circumference of the girdle, the dome-shaped crown formed from a plurality of sets of facets cut with monotonically decreasing angles to form a curved contour in accordance with a dome shape from the girdle to an apex of the dome-shaped crown, as shown below.



Stone of Murrin fig.1

Regarding claim 51, Murrin discloses the diamond of claim 47, wherein the plurality of facets of the pavilion are each cut to an angle of about 40.75 degrees with respect to the reference line which is tangential to the apex of the dome shaped crown.

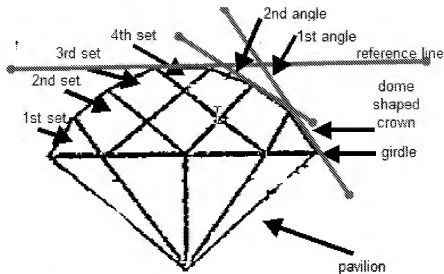
***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 52-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murrin as applied to claim 47 above, and further in view of 250378 to Meyer.

Regarding claims 52 and 53, Murrin discloses a diamond (line 56) of claim 47, but does not clearly disclose angles.



**Stone of Murrin fig.1**

Meyer discloses a shape of a precious stone, figure 3, having a rounded dome in the form of a symmetrical hemisphere formed from at least five sets of facets between the girdle and the apex including a first set of facets disposed above the girdle and a second set of facets disposed between the first set of the facets and an apex of the crown, wherein the first set of facets is cut at a first angle with respect to a reference line which is tangential to the apex of the crown and the second set of facets is cut at a second angle with respect to the reference line which is less than the first angle, each facet within the first and second sets of facets having opposing corners of the hexagon nested between adjacent facets. The first set of facets is disposed in the crown adjacent to the girdle and cut about 90 degrees with respect to the reference line (as shown in the figure below) and the second set of facets is disposed in the crown adjacent to the first set of facets and cut about 75 degrees with respect to the reference



line, as well as the appropriate angle for the third, fourth and fifth set (from claims 52 and 53).

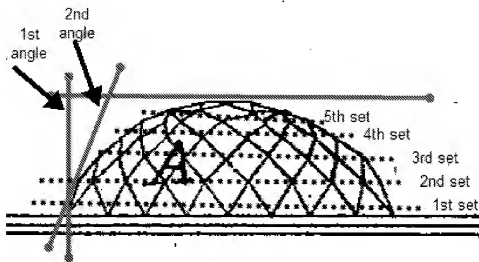


Fig. 5 of Meyer

It would have been obvious to one of ordinary skill in the art at the time of the invention to desire of the dome shape of Meyer as the dome top of Murrin. Examiner contends that both disclose a stone with a domed top, desiring a rounded shape which is semi-spherical. It would have been obvious to apply the domed shape of Meyer to the domed top of Murrin, as it would result in the same aesthetic appearance. It would have been obvious to one of ordinary skill in the art at the time the invention was made to increase the number and sets of facets, since it has been held that mere duplication of the essential working parts of a device involves only routine skilled the art. *St. Regis*

*Paper Co. v. Bemis Co.*, 193 USPQ 8. The shape desired by Murrin is also achieved by Meyer, another known cut of a rounded top.

Regarding claim 54, Murrin as modified discloses the dome shaped crown (as modified by Meyer) is formed from at least 5 sets of facets (as shown above) with monotonically decreasing angles to form the curved contour in accordance with the dome shape.

Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Murrin as applied to claim 47 above, and further in view of 3763665 to Polakiewicz.

Regarding claim 49, Murrin does not disclose that the facets are hexagonal.

Polakiewicz discloses a cut stone having crown facets 7 that become hexagonal (figure 7, column 4, line 28, claims 16 and 17).

It would have been obvious to one of ordinary skill in the art at the time of the invention to apply any shaped facets, such as those hexagonal facets taught by Polakiewicz, to the facets as desired by Murrin and Meyers, as it would not alter the rounded shape as desired by both references. As long as enough facets of the right sized are placed appropriately, the rounded dome nature of either reference would be retained regardless of the shape of the facet itself, whether it be triangular, pentagonal, hexagonal, octagonal, etc... Note that those of ordinary skill in the art would appreciate that a modification such as a mere change in shape of a prior art device is a design consideration within the skill of the art. *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

Claims 47, 51-54 have been rejected under 35 U.S.C. 103(a) as being unpatentable over the Diagrams for Faceting reference in view of Meyer, 250378, Schenck, D35938 and Schenck, 43724.

Regarding claims 47, 51-54, the Diagrams for Faceting reference discloses a variety of faceting designs for use on precious naturally occurring gemstones. On page 9, the Mogul cut discloses eight rows of crown facets that are cut at varying degrees from a reference plane tangent to the top of the crown. The reference also discloses, on page 16, a pavilion having facets extending from the culet to the girdle. Clearly, there are many ways to cut a stone to bring about an aesthetically pleasing gemstone.

The reference fails to disclose a crown in the shape of symmetrical hemisphere. However, there are a multitude of patents disclosing a crown in the shape of a symmetrical hemisphere with rows of facets cut at varying angles along the outside surface of the hemisphere. See US Design Patents D35938, D43724, and utility patent 250378.

The Diagrams for Faceting discloses a Mogul cut having eight rows of crown facets cut at varying angles, but fails to disclose ten rows of crown facets cut at the specified angles.

It would have been an obvious design choice to a person having ordinary skill in the art to cut ten rows of crown facets at the specified varying angles in order to produce an aesthetically pleasing gemstone.

It also would have been obvious to make the crown in the shape of a symmetrical hemisphere with pavilion facets extending from the culet to the girdle in order to produce an aesthetically pleasing gemstone. The design of the facets for a gemstone is considered to be an obvious design choice since the only thing that changes is the appearance of the gemstone. Furthermore, the applicant has failed to state any criticality with regard to their arrangement of facets on the stone, i.e. the effects that the arrangement has on the color, fire, clarity and/or brilliance of the stone.

Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Diagrams for Faceting, Meyer and Schenk '938 and Schenck '734, as applied to claims 47, 51-54 above, and further in view of 3763665 to Polakiewicz.

Regarding claim 49, Diagrams, etc... discloses the stone of claim 47, but does not disclose hexagonal facets.

Polakiewicz discloses a cut stone having crown facets 7 that become hexagonal (figure 7, column 4, line 28, claims 16 and 17).

It would have been obvious to one of ordinary skill in the art at the time of the invention to apply any shaped facets, such as those hexagonal facets taught by Polakiewicz, to the facets of the cut stones of the Diagrams for Faceting, Meyer and both Schenck references, as it would not alter the rounded shape as desired by both references. As long as enough facets of the right sized are placed appropriately, the rounded dome nature of either reference would be retained regardless of the shape of the facet itself, whether it be triangular, pentagonal, hexagonal, octagonal, etc... Note

that those of ordinary skill in the art would appreciate that a modification such as a mere change in shape of a prior art device is a design consideration within the skill of the art. In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

### ***Response to Arguments***

Applicant's arguments with respect to claims above have been considered but are moot in view of the new ground(s) of rejection.

Examiner has provided a 102b rejection for the claims 47 and 51.

Examiner has provided a 103 rejection regarding the angles of the facets, as the secondary reference Meyer discloses the structure desired by the hemispherical shape. For this reason, examiner has included a second reference with a closer structure to that claimed by applicant.

Examiner has also included a rejection from applicant's prior application 10/613281 which has been upheld by the board. For claim 49, this is in view of a change of shape as suggested by the Polakiewicz reference.

Applicant has claimed hexagonal facet shapes and the nested arrangement. According to the specification, the "nested" arrangement is only applicable in figure 9 [0034], which was not the originally elected embodiment. Examiner suggests applicant direct all further amendments toward the originally elected embodiment, that of figures 2-5. Since applicant has not disclosed the nested arrangement and the hexagonal

figures in the same embodiment, examiner contends that applicant did not possess this invention as originally filed and has morphed during the prosecution of this application.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please see 892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EMILY MORGAN whose telephone number is (571)270-3650. The examiner can normally be reached on M-Th 7:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Will can be reached on (571)272-6998. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thomas B Will/

Application/Control Number: 10/671,842  
Art Unit: 3677

Page 14

Supervisory Patent Examiner  
Art Unit 3671

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